DISCUSSION OF THE AMENDMENT

Claim 10 has been amended to make explicit what was previously at least implicit, i.e., that the fluidized reactor of the present invention has --only one-- fluidized bed and --only one-- gas distributor, as supported throughout the specification, and especially Figs. 1 and 2.

No new matter is believed to have been added by the above amendment. Claims 10 and 13-26 remain pending in the application. All are active except Claim 18, which is drawn to a non-elected invention.

REMARKS

Regarding withdrawn Claim 8, Applicants defer any petition pursuant to 37 CFR 1.144.

The rejection of Claims 10, 13-17 and 19-26 under 35 U.S.C. § 103(a) as unpatentable over US 2002/0172640 (Hibi et al) in view of US 2008/0047872 (Iaccino et al) and US 3,482,946 (Shirk), is respectfully traversed.

Applicants submit that all the arguments in traversal of this rejection in the previous response still apply, which arguments are incorporated by reference.

Iaccino et al discloses carrying out their exothermic reaction in multiple catalyst beds with heat removal between the beds and accordingly, the lead bed(s) may be operated at higher temperatures to maximize kinetic rates and the tail bed(s) may be operated at lower temperatures to maximize thermodynamic conversion [0098]. Further, Shirk discloses that the reaction zone of the reactor is divided into a series of fluidized-solids compartments by perforate trays, cross beams and vertical nesting support members (column 2, lines 40-42). Shirk continues that the holes in the perforated trays have an adequate size to permit the catalyst to continuously flow into and out of a given compartment from above and below, which will effectively reduce by-passing, forward and backward mixing and channeling problems associated with open fluid bed reactors and many tray-containing reactors (column 2, lines 49-64). If one skilled in the art would have combined Hibi et al with Iaccino et al and Shirk, that person would have modified the fluidized-bed reactor of Shirk, which is divided into a series of compartments so that this reactor had a heat removal between the respective beds for maximizing the thermodynamic conversion as suggested by Iaccino et al. In this context, see also paragraphs [0098] and [0108] of Iaccino et al. Accordingly, in such a reactor the temperature gradient would also extend along the flow direction of the gas over the complete number of compartments. This disclosure of Iaccino et al has the effect that in

the lead beds the temperature would reach a maximum value and in the tail beds the temperature would decrease accordingly. For this purpose, there are respective heat removals in such a reactor between the beds for the realization of such a temperature gradient.

Quite to the contrary, in the process according to the present invention, the reaction is performed in a fluidized-bed reactor solely comprising a fluidized bed and a gas distributor. Since there is only one single compartment in this reactor the temperature distribution is also only limited to this particular compartment. Since the temperature within this single compartment relatively quickly reaches the absolute temperature maximum, the gas stream needs a considerably longer time for the temperature to drop to a lower temperature until the surface of the fluidized-bed. Necessarily, this has the effect that the distance between the absolute temperature maximum and the gas distributor is smaller than the distance between the absolute temperature maximum and the surface of the fluidized-bed.

In contrast, the reactor that would result from combining Hibi et al with Iaccino et al and Shirk would not be one single compartment but a multitude of compartments as disclosed by Shirk. This would have the effect that a rise to an absolute temperature maximum would not happen in one single compartment because according to the disclosure of Shirk, the catalyst particles are allowed to pass through the trays dividing the compartments from each other so that the temperature rise is spread over several compartments. Likewise, the temperature descending to a lower value at tail beds is spread over several compartments. Since such a reactor would have a suitable number of trays which the Examiner considers as gas distributors, the inventive feature herein that the distance between the absolute temperature maximum and the gas distributor is smaller than the distance between the absolute temperature maximum and the surface of the fluidized-bed is not suggested by combination of Hibi et al with Iaccino et al and Shirk.

For all the above reasons, it is respectfully requested that the rejections be withdrawn.

The rejection of Claims 10-17 and 19-26 [sic, 10, 13-17 and 19-26] under 35 U.S.C. § 103(a) as unpatentable over Hibi et al in view of US 5,573,657 (Degnan et al) and Shirk, and additionally in view of Iaccino et al, is respectfully traversed. [1]

Applicants submit that all the arguments in traversal of this rejection in the previous response still apply, which arguments are incorporated by reference.

The Examiner finds that Iaccino et al teaches that it would be possible to use multiple tail beds, thus, the reaction temperature would be sequentially decreased in these beds and it would not take longer and more distance to decrease the temperature though these tail beds. The Examiner further finds that Shirk is applied only to suggest that multiple fluidized beds can be replaced by multiple zones in a single fluidized bed. In this context, it is again noted that according to present Claim 10, the reaction is performed in only one fluidized-bed reactor in only one fluidized-bed. For the generation of multiple zones in one single fluidized-bed, it would require additional gas distributors or corresponding trays. However, additional gas distributors are not provided in the process of Claim 10. In contrast to the presently-claimed subject matter, the combination of Iaccino et al and Shirk suggests only dividing a single fluidized-bed into a series of beds. However, this teaches away from the claimed process control in which there is only one fluidized-bed in one reaction zone. This allows for a considerable simplification of the plant design because there is only one heat removal needed. Quite to the contrary, the combination would result in a plant design that

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[1] That the new prior art, i.e., Iaccino et al, is not listed in the statement of the rejection is irrelevant; reliance thereon is all that is necessary. "Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection." *In re Hoch*, 428 F.2d 1341, 166 USPQ 406, 407 n.3 (CCPA 1970). See also MPEP 706.02(j). Iaccino et al is relied on at pages 6 and 7 of the Office Action.

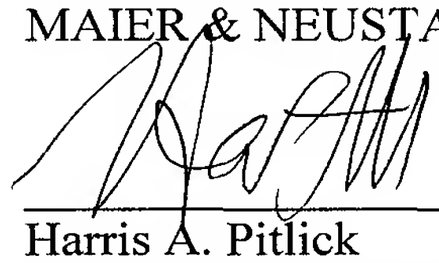
requires several heat removals. In this context, reference is again made to paragraph [0098] of Iaccino et al, in which heat removal is performed between the trays.

For all the above reasons, it is respectfully requested that the rejection be withdrawn.

Applicants respectfully submit that all of the presently-active claims in this application are now in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



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